IV. AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for cutting brittle material by irradiating laser light from a laser light source onto a brittle material to generate thermal distortions over a wide range of the brittle material, providing cracks in the interior of the brittle material and moving that irradiating position along a predetermined line of the brittle material to cut the brittle material, the brittle material having a front face surface and an opposite rear face surface, the method comprising:

providing a plurality of optical fibers which guide laser lights from a plurality of laser light sources to the brittle material;

driving the plurality of laser light sources, with the plurality of optical fibers in a bundled condition such that irradiating spots of the lights irradiating the brittle material are arranged in a matrix arrangement, for irradiating a composite laser light at a selected composite laser light intensity which achieves a predetermined shape onto a the front face surface of the brittle material being irradiated;

measuring a light intensity distribution of the composite laser light on the irradiated front face surface of the brittle material;

measuring a light intensity of the composite laser light transmitted through the brittle material to the rear face surface of the brittle material; and

in response to measuring the light intensity distribution, adjusting the light intensity distribution of this composite laser light by controlling respectively the light intensity of the plurality of the laser light sources and, if the light intensity on the rear face surface of the brittle material is not appropriate, controlling the selected composite laser light intensity.

2. (Previously Presented) The method for cutting brittle material according to claim 1, wherein the shape of the composite laser light is set by selectively driving the plurality of laser light sources.

3. (Previously Presented) The method for cutting brittle material according to claim 1, wherein the shape of the composite laser light is set by selecting a method for bundling the plurality of optical fibers.

4. (Previously Presented) The method for cutting a brittle material according to claim 1, wherein the plurality of laser light sources are set to different output intensities.

5. (Previously Presented) The method for cutting a brittle material according to claim 1, wherein the shape of the composite laser light is set by controlling an emission start time of the plurality of light sources to a predetermined sequence of time differences.

6. (Currently Amended) An apparatus for cutting brittle material by irradiating a brittle material with a laser light from a laser light source and moving that irradiating position along a predetermined line of the brittle material, comprising:

a plurality of laser light sources;

a plurality of optical fibers, bundled so as to guide the laser light from each laser light source to a surface of the brittle material, and arranged such that irradiating spots of the laser lights irradiating the brittle material are arranged in a matrix arrangement,

a first light intensity measuring means for measuring a light intensity distribution of the composite laser light on an irradiated surface of the brittle material;

a second light intensity measuring means for measuring a light intensity of the composite laser light transmitted through the brittle material onto a surface disposed opposite the irradiated surface; and

a scanning means for moving a position at which the laser light is irradiated onto the brittle material,

wherein the composite laser light which has a predetermined shape is irradiated onto the surface of the brittle material with the plurality of bundled optical fibers, ~~and~~ the light intensity distribution of this composite laser light is adjusted by controlling respectively the light intensity of the plurality of laser light sources in response to the measured light intensity distribution of the composite laser light and, if the light intensity

transmitted to the surface of the brittle material opposite the irradiated surface is not appropriate, the light intensity of the composite laser light is controlled.

7. (Canceled)

8. (Currently Amended) The apparatus for cutting brittle material according to claim 6, further comprising:

a transportation means for transporting the first and second light intensity measuring means along the laser light irradiated surface of the brittle material.

9. (Currently Amended) A method for cleaving brittle material wherein thermal distortions are generated over a wide range of the brittle material by irradiating laser light from a laser light source onto a brittle material, and a crack formed at a starting point of processing the brittle material is advanced by moving that irradiating position along a predetermined line of the brittle material to cleave the brittle material, the brittle material having a front face surface and an opposite rear face surface, the method comprising:

providing a plurality of optical fibers which guide laser lights from a plurality of laser light sources to the brittle material;

driving the plurality of laser light sources, with the plurality of optical fibers in a bundled condition such that irradiating spots of the laser lights irradiating a surface of the brittle material are arranged in a matrix arrangement, for irradiating a composite laser light at a selected composite laser light intensity which achieves a predetermined shape onto the front face surface of the brittle material;

measuring a light intensity distribution of the composite laser light on the irradiated surface of the brittle material;

measuring a light intensity of the composite laser light transmitted through the brittle material to the rear face surface of the brittle material; and

in response to measuring the light intensity distribution, adjusting the light intensity distribution of this composite laser light by controlling respectively the light intensity of the plurality of the laser light sources and, if the light intensity on the rear

face surface of the brittle material is not appropriate, controlling the selected composite laser light intensity.

10. (Previously Presented) The method for cleaving brittle material according to claim 9, wherein the shape of the composite laser light is set by selectively driving the plurality of laser light sources.

11. (Previously Presented) The method for cleaving brittle material according to claim 9, wherein the shape of the composite laser light is set by selecting a method for bundling the plurality of optical fibers.

12. (Previously Presented) The method for cleaving brittle material according to claim 9, wherein the plurality of laser light sources are set to different output intensities.

13. (Previously Presented) The method for cleaving brittle material according to claim 9, wherein the shape of the composite laser light is set by controlling an emission start time of the plurality of light sources to a predetermined sequence of time differences.

14. (Currently Amended) An apparatus for cleaving brittle material by irradiating the brittle material with a laser light from a laser light source and moving that irradiating position along a predetermined line of the brittle material, comprising:

a plurality of laser light sources;

a plurality of optical fibers, bundled so as to guide the laser light from each laser light source to a surface of the brittle material, and arranged such that irradiating spots of the laser lights irradiating the brittle material are arranged in a matrix arrangement,

a first light intensity measuring means for measuring a light intensity distribution of the composite laser light on an irradiated surface of the brittle material,

a second light intensity measuring means for measuring a light intensity of the composite laser light transmitted through the brittle material onto a surface disposed opposite the irradiated surface; and

a scanning means for moving a position at which the laser light is irradiated onto the brittle material,

wherein the composite laser light which has a predetermined shape is irradiated onto the surface of the brittle material with the plurality of bundled optical fibers, and the light intensity distribution of this composite laser light is adjusted by controlling respectively the light intensity of the plurality of laser light sources in response to the measured light intensity distribution of the composite laser light and, if the light intensity transmitted to the surface of the brittle material opposite the irradiated surface is not appropriate, the light intensity of the composite laser light is controlled.

15. (Canceled)

16. (Currently Amended) The apparatus for cleaving brittle material according to claim 14, further comprising:

a transportation means for transporting the first and second light intensity measuring means along the laser light irradiated surface of the brittle material.

17. – 20. (Canceled)

21. (New) A method for cutting brittle material by irradiating laser light from a laser light source onto a brittle material to generate thermal distortions over a wide range of the brittle material, providing a crack in the interior of the brittle material and moving that irradiating position along a predetermined line of the brittle material to cut the brittle material, the brittle material having a front face surface and an opposite rear face surface, the method comprising:

providing a plurality of optical fibers which guide laser lights from a plurality of laser light sources to the brittle material;

driving successively the plurality of laser light sources, with the plurality of optical fibers in a bundled condition such that optical fibers for irradiating spots of the lights irradiating the brittle material are arranged in a matrix arrangement aligning in a straight row over the brittle material and that irradiating spots are successively moved from one end of the front face surface to the other end thereof resulting in crack formation from the one end to the other end of the brittle material,

measuring a light intensity distribution of the composite laser light on the irradiated front face surface of the brittle material;

measuring a light intensity of the composite laser light transmitted through the brittle material to the rear face surface of the brittle material; and

in response to measuring the light intensity distribution, adjusting the light intensity distribution of the composite laser light by controlling respectively the light intensity of the plurality of the laser light sources and, if the light intensity on the rear face surface of the brittle material is not appropriate, controlling the selected composite laser light intensity.

22. (New) A method for cutting brittle material by irradiating laser light from a laser light source onto a brittle material to generate thermal distortions over a wide range of the brittle material, providing a crack in the interior of the brittle material and moving the irradiating position along a predetermined line of the brittle material to cut the brittle material, the brittle material having a front face surface and an opposite rear face surface, the method comprising:

providing a plurality of optical fibers which guide laser lights from a plurality of laser light sources to the brittle material;

driving successively the plurality of laser light sources, with the plurality of optical fibers in a bundled condition such that optical fibers for irradiating spots of the lights irradiating the brittle material are arranged in a matrix arrangement aligning in a curvilinear line over the brittle material and those positions of irradiating spots are successively moved from one end of the curvilinear line to the other end thereof resulting in crack formation along another curvilinear line on the brittle material,

measuring a light intensity distribution of the composite laser light on the irradiated front face surface of the brittle material;

measuring a light intensity of the composite laser light transmitted through the brittle material to the rear face surface of the brittle material; and

in response to measuring the light intensity distribution, adjusting the light intensity distribution of the composite laser light by controlling respectively the light intensity of the plurality of the laser light sources and, if the light intensity on the rear face surface of the brittle material is not appropriate, controlling the selected composite laser light intensity.

23. (New) An apparatus for cutting brittle material by irradiating laser light from a laser light source onto a brittle material to generate thermal distortions over a wide range of the brittle material, providing a crack in the interior of the brittle material and moving that irradiating position along a predetermined line of the brittle material to cut the brittle material, the brittle material having a front face surface and an opposite rear face surface, the apparatus comprising:

a plurality of optical fibers which guide laser lights from a plurality of laser light sources to the brittle material;

driving means for driving successively the plurality of laser light sources, with the plurality of optical fibers in a bundled condition such that optical fibers for irradiating spots of the lights irradiating the brittle material are arranged in a matrix arrangement aligning in a straight row over the brittle material and that irradiating spots are successively moved from one end of the front face surface to the other end thereof resulting in crack formation from the one end to the other end of the brittle material,

measuring means for measuring a light intensity distribution of the composite laser light on the irradiated front face surface of the brittle material and for measuring a light intensity of the composite laser light transmitted through the brittle material to the rear face surface of the brittle material; and

in response to measuring the light intensity distribution, a controller for adjusting the light intensity distribution of the composite laser light by controlling respectively the light intensity of the plurality of the laser light sources and, if the light intensity on the

rear face surface of the brittle material is not appropriate, controlling the selected composite laser light intensity.

24. (New) An apparatus for cutting brittle material by irradiating laser light from a laser light source onto a brittle material to generate thermal distortions over a wide range of the brittle material, providing a crack in the interior of the brittle material and moving the irradiating position along a predetermined line of the brittle material to cut the brittle material, the brittle material having a front face surface and an opposite rear face surface, the apparatus comprising:

a plurality of optical fibers which guide laser lights from a plurality of laser light sources to the brittle material;

driving means for driving successively the plurality of laser light sources, with the plurality of optical fibers in a bundled condition such that optical fibers for irradiating spots of the lights irradiating the brittle material are arranged in a matrix arrangement aligning in a curvilinear line over the brittle material and those positions of irradiating spots are successively moved from one end of the curvilinear line to the other end thereof resulting in crack formation along another curvilinear line on the brittle material,

measuring means for measuring a light intensity distribution of the composite laser light on the irradiated front face surface of the brittle material and for measuring a light intensity of the composite laser light transmitted through the brittle material to the rear face surface of the brittle material; and

in response to measuring the light intensity distribution, a controller for adjusting the light intensity distribution of the composite laser light by controlling respectively the light intensity of the plurality of the laser light sources and, if the light intensity on the rear face surface of the brittle material is not appropriate, controlling the selected composite laser light intensity.